*The* JOURNAL *of* GEOGRAPHY

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VOLUME XXXV OCTOBER, 1936 NUMBER 7

# GANDIA: A VIGNETTE OF THE HUERTAS OF VALENCIA, SPAIN

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Teaching the geography of a foreign country has depended too long on vague generalities that can have no meaning for a child. Even adult geographers are frequently astonished at their own misinterpretations when, after airy courses, they enter the field for themselves. I am convinced that it is better to approach the geography of foreign countries in a different manner. Let a small, representative area be taken and examined in detail, so that the relation of local people with their environment can be understood; then from that small area can be developed concentrically the more general ideas of the regional geography. In this way, the gross errors of overgeneralisation will be avoided and the human life in the foreign country be made something vital and real to the student. It is better to give a complete picture of a small area rather than a distorted and hazy view of a large one.

The following is a sketch for such a local vignette which represents the character of all Valencia and affords a sound starting point for broader generalities.

## THE SETTING OF GANDIA

Gandia prints its name on many orange wrappers because it is the second Spanish centre for oranges. In one year it sends away almost as many boxes of them as there are families in New York. Yet it is only a small village within a Mediterranean cove. The cove is so big that it takes three hours to walk across it by the sea and as much to walk from the sea to the innermost western corner. Once, the sea reached those cliff-like hills to the landward and the Gandia plain has been built up by slow recession of the sea. There

is now no danger that the sea may, in some storm, reach the foot of the old limestone cliffs because the coast is, so to speak, barricaded by a continuous line of sand dunes. The coast line is one of marine accumulation in an advanced stage.

Let us go to the top of one of the surrounding hills and look down. Well may the plain be called, "the jewel of Valencia." There to the east beyond the yellow dunes sleeps the blue sea; above, soars a cloudless blue sky and stretched out at our feet lies the gentle plain with a white scar across it where a river goes. This, the river Serpis, does not flow centrally across the embayment but hugs closely the northwestern line of hills. The whole zone might be called almost a delta of this river altho the materials have, in the inner parts, become cemented together into conglomerates. The river is well entrenched below the plain where it first enters but lower down the bed of the river is very little different in relief from its banks. Moreover, the tendency to accumulate dunes by the sea creates an obstacle to free flow of the waters, which, in times of flood, cannot get away quickly. Now the mouth of the river is controlled and fixed by man yet before this influence came, the river mouth tended to shift repeatedly. To keep the river mouth dredged clear of sand remains a constant and expensive obligation.

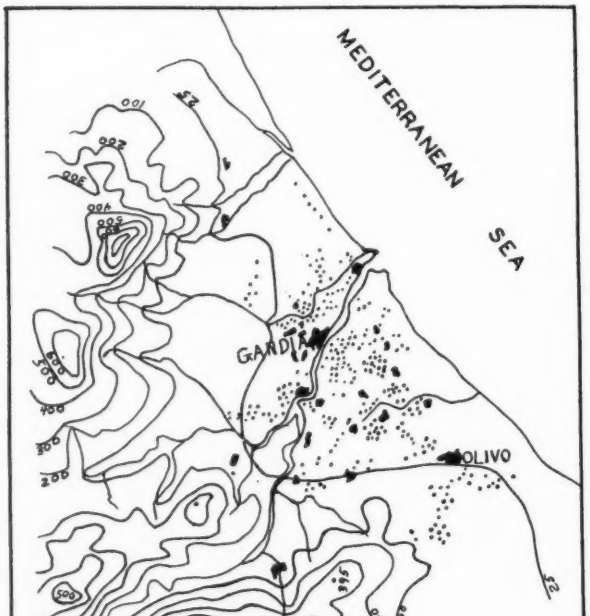


Fig. 1. Sketch map of the Gandia plain.

## The Inner Hills and Their Associates

Steep hills are near the sea at the northern and southern ends of the plain but elsewhere stand well back until they reach nearly seven miles from the water. The hills where we stand are bare and the white limestone throws up a glare; hardly a blade of grass

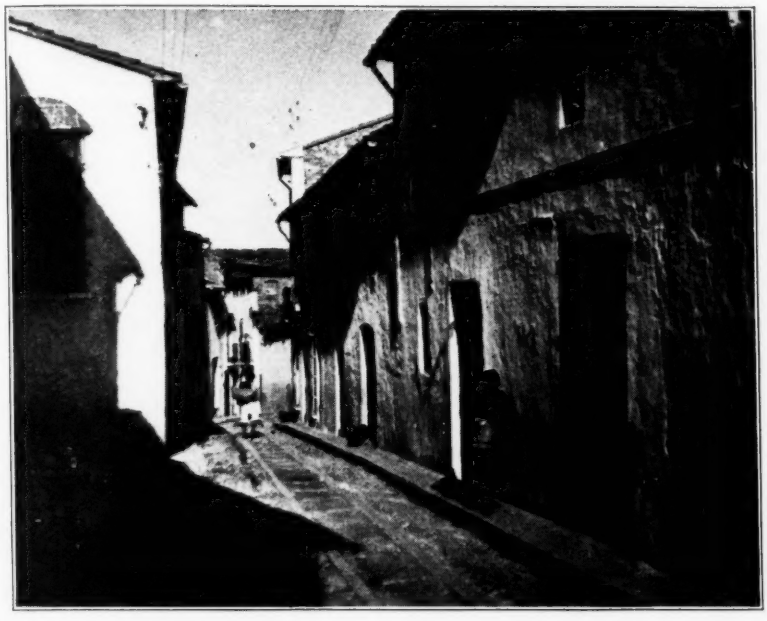

Fig. 2. Street in Gandia. Houses are whitewashed and plastered over a base of unhewn limestone. Windows are small in the cottages and closely barred in the better class houses. Doors, on the other hand, are very large in proportion. Each roof has a rain pipe leading into the house where rain water is kept in a private well for domestic use. Central paving of the lanes are for convenience of mules and donkeys.

shows on the rock and the air carries the smell of sage, thyme and other fragrant herbs which can manage to live in the dryness. Some evergreen shrub oaks try to assert themselves; their struggle is a losing one because goats are constantly nibbling them down to bare trees. It is difficult to walk on these hills, not because of the steepness but because the ground is pitted with hollows and cracks which twist the ankles, while lizards and snakes among the herbs are constantly rustling. These dry, pitted hills repeat most of the characteristics of typical karst country and permit no agricultural activity. No one lives regularly on these hills. Round about on the

hills are many chapels and hermitages as if on guard. Each village of the plain has dedicated to it one of the chapels on the hills. To the village shrine, the peasants from below make pilgrimage and procession on certain holy days of the year, to beg favours and give thanks to patron saints. Altho devout Catholics, the peasants give strictly local meanings to religious ideas; many of the shrines are considered to be the actual Calvary and the path to them is marked by twelve effigies in accordance with the scriptural story of the

Fig. 3. View from limestone hills showing the three zones of the Gandia plain. In the far distance near the sea, shine the flooded rice fields. In the middle distance is the vegetable garden zone, and in the immediate foreground there appears a patch of oranges.

pauses on the way to Calvary. At Easter time, the crucifixion is re-enacted locally by a procession of images along these routes to the chapels and gives occasion to demonstrate intense local religious emotion. No doubt these hills had a special protective value for the villagers when, a couple of centuries ago, pirates regularly ravaged this rich coast.

## The Orange Zone

It relieves the eye to look down again and see the broad band of evergreen trees that darken the plain at the foot of the hills. They are the orange trees which have made Gandia important and their dark green gives a striking contrast to everything in the whole region round about. Twice a year the dark leaves are speckled with white, when the trees are flowering in April and in August. During the second half of the year and even into January, shining oranges are upon the boughs in such numbers that wooden props have to be used. The trees are small, so that the topmost leaf is often within

the reach of a man and the trees are carefully pruned to permit the oranges to be picked without the fuss of long ladders. The groves are tightly packed with trees almost touching one another and the branches come close to the ground. Around each trunk, the red earth is scraped away to show the knot of roots; this prevents a disease which covers the tree with a gummy substance.

The orange trees have achieved importance comparatively recently. At the beginning of this century, the orange was found only

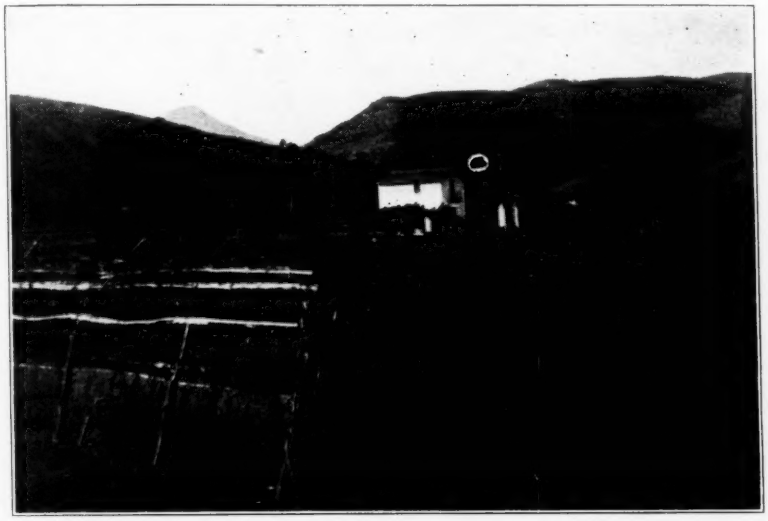

Fig. 4. Looking from the plains, the limestone hills inland rise abruptly and since they have little vegetation cover, they often glare in the sun. Here a young orange plantation foots the hills, with seed screen in foreground. The type of house shown is temporary, being used only as a summer house.

as an occasional tree whose fruit was intended solely for family use. In those times the important crop of this zone was the vine which covered the area now under oranges. When that cataclysmic plague the phylloxera, came, and was followed by a growing demand for fruit in England, then, instead of replanting the old vineyards, the land was put into oranges. This meant a complete change in the local economy; the "money" crop assumed great importance such as the old wine and raisin trade had never known. Irrigation had to be much extended for the orange trees. At the present time, it is almost impossible to find a couple of vines growing together in this plain but details of the great change are still vivid in the minds of mature local farmers.

### Irrigation from "Arabic" Wells

Each grove is threaded with a network of earthen channels that most often are dry but are intended for watering the fields. Not every year is it necessary to lead water along these channels because the orange does not demand a great deal of water, and the rain, little as it is, often suffices. However, drought always threatens this part of the world so farmers must be prepared. They have one great advantage; below the surface, the plain has several layers of gravels which contain some water from underground springs that issue from the limestone hills to the west. This is in keeping with the karstic nature of the hinterland. The sub-surface gravels yield a small but reliable amount of water so that many wells have been sunk. These wells are of the type introduced by Arabs and known as "norias." An endless "belt" of twisted esparta grasses dips down to the water level and has fastened upon it a series of earthen ware jars that dip into the water and come up full. The whole belt of jars is operated from above by a donkey who patiently walks round harnessed to a beam which turns a rough winch. As the jars pass over the winch, they empty the water into a channel that leads to the simple canals of the farm. Each jar, strangely enough, has a half inch hole in the bottom; hence the jars seem to be losing water as they rise. The "lost" water goes into the succeeding jars so that the jars really remain full. The idea of this hole at the bottom is to permit exit of the air when the descending jars strike the water neck downwards. The efficiency of this simple water raising apparatus is such that it persists in face of all modern pumping types. Often these private wells sell water to other farms for irrigation when those farms need water out of their rota. The ordinary irrigation rights are bound up with the land and entitle each farm to a service of water once in a certain number of days. If water be needed outside this, the obstacles and costs are normally too high to be surmounted except with the help of the "norias."

### Irrigation from the Torrential River

Most irrigation water comes from the river Serpis, the father of this plain. It was the river which, thru the ages, brought down all the present soil. That is why when you look at the section of a well or at the side of a path, you may see irregular layers. Some are fine and powderlike; others have rough stones in them as big as the hand; others are mixtures of pebbles and sand. When the river flooded gently and slightly, the fine earth was left behind.

When fierce rains of a tempest filled the river, the big stones were brought down. In this way, we may tell the history of the Serpis floods by looking at a cut in the earth.

For five months in every year, at least, the river will be without water and people will use the stony bed as a path. For the rest of the year there may be no more than a mere trickle of water that

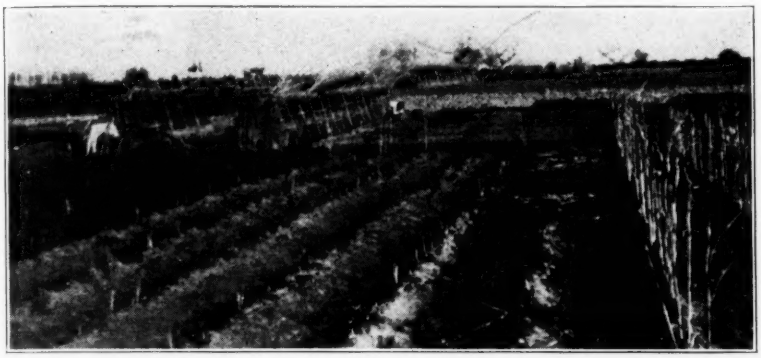

Fig. 5. Detail in the vegetable garden or "huerta" zone of Gandia with screened seed beds prominent to every field. Wherever any man is working his donkey will be seen not far away, guarded by a small dog.

hardly wets the stones. Suddenly, when a storm bursts over the hills, blood red water rushes down in a torrent that threatens to carry everything away. After a couple of hours the madness is over and only new mud and new stones or a few uprooted trees, show how strong the rush of water has been. Such is the Serpis, when it comes from its gorge in the hills; to store its waters and to help prevent floods, the lower end of its gorge now has a barrier built across it and the waters thus ponded are shared over the plain.

## Arabic Influences

Most of the water channels and the first dam were built by Arabs who conquered this district about four centuries ago. Ruins of two Arabic castles still stand guard over the plain on the security of the hill tops and many names of villages are pure Arabic words. Among the orange groves, date palms tower up like giant daisies to remind us still more of oases, while you could readily mistake the dark skinned peasants for Arabs. Thus, the inner hills have always been associated with watching and guarding the plain; the protection of Arabic castles has now given way to the protection of hermitages and chapels.

### Customs in the Rice Zone

As we examine the plain from the hills, we see it is not completely covered with orange groves. Near the sea, in a narrow band behind the dunes, the fields flatten out strangely and shine with light. They are flooded, but not with sea water; they are rice fields and the water upon them comes from the Serpis. In the early summer they are always covered with water and the peasants paddling across them, bent down to plant young rice, might well be Chinese. Peasants wear rice straw hats, sandal-like shoes of esparta grass, trousers to the knee, short hose, and often a blouse which is held down by a black sash wrapped several times round the waist. Sometimes the broad brimmed hat is replaced by a tight black head kerchief. The typical sash is used as hold-all for anything from food to tools. The lives of these people are quite different from those of the orange growers altho the difference between the two zones is so small. Rice farmers live in a string of tiny primitive villages along the insides of the dunes where the ground is a little higher and prevents the house floor being always damp. In the wet season people move about in shallow boats; they fish in the ponded waters behind the dunes and even in the sea, but never go farther from shore than their rowing boats permit. Altho so close to the sea, fishing is quite definitely not a feature of local activities and plays little or no part in the lives of the people locally.

Houses in the rice zone are very simple, thatched with rice straw and built upon wicker daubed with sun-dried clay. The roof is exceptionally steep, not to throw off rain, but to provide an upper dry place for storing things above the single living room below. To have this one room is no discomfort because most of the life goes on out of doors; cooking, eating, meeting, and even sleeping, is done in the open air. It is healthier so; animals live in a part of the lower room and attract many mosquitoes from the marshy land, bringing the danger of malaria from which these people have already suffered enough. Rice fields are never used for any other crop but rice because the ground is, at the best of times, too damp for other plants. No one can walk in that part of the Gandia plain unless he be prepared to go thru shallow water every now and again.

### "La Huerta"—The Market Gardening Zone

Between the orange groves inland and the rice fields near the sea, is another belt of land different from either and devoted to

garden crops. This is, properly speaking, the huerta. This middle belt is always green, too, altho the plants grown there are not evergreen. It is green because something is growing the whole year thru without rest. The winter never brings cold serious enough to prevent crops of beans and food stuffs for animals. In spring, some other bean, melons or early potatoes are put into the same ground,

Fig. 6. Type of house or "barraca" as used by most peasants of the rice zone: walls of wattle and daub with rice-straw thatch. These contain only one room and are windowless. Cooking and nearly all other activities of life are carried on outdoors. Here the hanging pots and pans indicate the outdoor kitchen. The trees shown are exceptional.

and, while they are still maturing, peppers are planted so that they are quite high by the time the other vegetables are taken out. When the red peppers are well advanced, maize is planted among them . . . and so the ground is perpetually carrying some crop. This area of gardens uses more water from the river than either of the other belts because it uses water regularly whereas elsewhere water is only required at certain times.

### Smallholders Rather Than Wage-Earners

Naturally, the careful work which must be put in to keep up these rapid changes of crops means consistent effort and intensive labor. Therefore, a man generally owns the land he works. In no other way could anyone be persuaded to work for the long hours

which such an agriculture demands. Men and their families may often be on their patch from sun-up till sun-down and that would be quite uneconomic if wage earners had to be paid. Farms big enough to need permanent wage earners are only found among the orange plantations, tho even there they are not common. In this Gandia area, a man who lives solely by wages is practically unknown, everyone has a piece of land which is the family mainstay even tho the owner may occasionally go as hired laborer to augment his own crops. Among the huertas, every patch has its seed bed where seedlings are started and allowed to grow to some height before being transplanted into the fields. These seed beds look like wicker tents and present a screen of reeds to the north whence comes a wind that is too chilly for the young plants. During the winter, even the southern sides of the seed beds are closed up at night in case a frost should occur. Yet on the whole the frost risk is quite small.

### Homelife in La Huerta

It is only in this gardeners' belt that peasants live in houses scattered away from the villages and then the houses are different from the rice growers'. They are box-like, whitewashed, and have one huge door that is ever open to act as window as well. Inside, two thin walls that do not rise as far as the tiles, partition off two smaller rooms without doors. In one, the family mule lives and in the other, the farmer's family sleeps, so that, when eating in the light of the doorway or sleeping in their corner, the peasants have always their animal within hearing. One small loft, reached by a ladder, acts as storeroom, while from the rafters hang onions, melons on strings, drying peppers, herbs and raisins that may be used for cooking purposes at any time. Generally, there are no windows and the fireplace is not necessary because the clay oven for bread baking is outside the house, and for simple daily cooking the firing used is almost smokeless. The fuel is charcoal, which, being costly, is bought by the pound and sparingly used. In this huerta zone, the normal dress differs little from the normal European; long trousers, jacket, peak cap, and print cotton shirt form the every day dress.

### How the People Feed

The rice belt and the garden belt provide the foods of this dense population; the orange belt provides most of the money which

circulates in the region. It is at the orange selling time that local bills are paid and local trade becomes busy. The people are nearly vegetarian. Enormous quantities of bread are eaten, but it is wheat bread. What little maizė they grow here is for animals. The peasant begins the day with a large piece of flat bread sprinkled with cold olive oil, washed down by goats' milk. At midday comes a stew of beans and tomatoes with more bread and simple wine. Foods are rarely baked or roasted. In the evening, and often at midday, will come the most popular dish of Valencia, rice. This rice is simmered for many hours in a casserole over a charcoal glimmer together with much red pepper, baby crabs or pieces of octopus as flavoring. This dish is called "la paella" and appears at least once a day on every peasant table in Valencia. Meat is costly, mostly goats' flesh and not very good, so fresh vegetables are more frequently used. Oranges, strangely enough, are not commonly eaten, being grown for sale. Those oranges which do not come up to selling standard lie in great heaps that fill the air with acid smell, since no way of using them has been thought of and they cannot be made into marmalade. The speciality of the Gandia plain is the tangerine orange.

Fig. 7. Three styles of men's dress in Gandia: on the left, typical orange zone man; in center, the older style of the rice cultivators; on right, younger man dressed for rice fields and vegetable garden work.

### The Population Is Dense and Condensed

Other groups of villages are found besides that string of hamlets near the dunes. Altho this plain has one of the densest populations in Spain, it does not appear so when you live in it, because the

people live close together in villages. One string of villages lies along the foot of the hills, and these villages usually mark where a tiny stream comes to the surface to provide drinking water. Most houses have a carefully cemented stone vat where rains from the roof are led down and carefully saved. In addition to this string of villages, several have grown up on the main line of movement in the plain, that is, straight across from north west to south east, parallel to the sea but two miles from it. A road and a railway pass across the plain in this manner and find their way round the seaward sides of the limiting hills. These villages in the middle plain do not have tightly packed houses and narrow streets like those near the hills; they spread out in lines along the road and railway.

### THE ECONOMIC ROUTES

The directions of the road and the railway indicate how much easier it is to move parallel to the coast than to go inland. Those abrupt hills are a great barrier to anything but herds of goats or those few herds of sheep which, tho owned by the villagers, slowly graze over these hills into distant parts of Spain and return only in winter when the highlands are too cold. To the north, the road and railway go to Valencia. Southward, the railway goes a little further down the coast to Denia where cliffs come close to the sea and prevent any extension of the coastal railway. One narrow gauge, single line railway which has too little business to be profitable makes its way inland along the Serpis valley to bring down some oranges from inner valleys.

### GANDIA HARBOR

The river Serpis breaks the continuous line of dunes and forms the one possible harbor in a long shallow coast. It is called "Gandia harbor" but lies two miles from the village and it is not a good harbor despite artificial breakwaters and constant dredging. Ships even have to get out of it hastily and seek the safety of the open sea when a storm blows up, yet this harbor is the only place for shipping between Valencia and Alicante, and so has grown to importance. To this harbor come the oranges from within a radius of thirty miles or so. That accounts for the great export from Gandia because the actual Gandia plain produces only a part of the oranges exported. The main business of the railways here was to transport oranges to the harbor, but now that the roads have been put into

good condition, the railways find road transport robs them of their raison d'etre. With such intensely seasonal traffic, the auto-truck is the most efficient and economic method of transport. Dozens of Scandinavian tramp steamers put into Gandia harbor, two or three at a time, and unload pine wood logs that will be sawn up in the villages to make orange boxes. These tramps then take on board the crates of fruit and transport most of them to England.

### Connections with England

It is not surprising, therefore, that English influence is considerable in the Gandia orange business. Many firms contract to take the oranges while they are still hanging on the trees; they arrange for the picking, sorting, packing, and the final handling on the market. There is no cooperation among local growers either for protecting their interests or for properly standardising the fruit. This disunity is the more surprising because the business method throws all responsibility on the farmer. His oranges are not paid for until they are sold in the final market and from the proceeds of that sale are deducted freight charges, commission, etc., so that he may, in a glut, get little or nothing for his oranges. Absence of careful control of quality, and packing, has been a serious drawback to this Spanish orange trade when the newer producing countries have entered the market with standardised qualities and advertised marks that have some guarantee behind them.

The greatest activity among orange growers is in November when shipments are being made for the Christmas market in London. Pickers and packers are then most active and the farmers are engaged to pick their oranges for the contractors while the women of the family go at wages to sort and wrap them for the contractors. Since the farmer is paid for his oranges after the completion of sale in London, the papers of Gandia contain telegraphed prices of the day from London while only discussing Spanish news of yesterday or the day before. The rice growers, being then in their slack season, likewise go to the orange contractors as laborers.

### Transhumance Among Rice Workers

These rice men are the people of the plain who move about most and take part in a seasonal migration. The rice zone is at the southern end of Valencia. The field laborers, therefore, occur first and those skilled in the complicated work of rice planting, travel

northwards to help in planting as that becomes possible farther and farther north. They continue this until they must return for the next important stage of their own crop. Between this zone, the southernmost rice zone of eastern Spain, and the Ebro delta, is a time lag of about a month in each process of the rice. Thus, men from Gandia frequently move as far north as the Ebro, leaving their wives and families behind. This migration is twice yearly; the first migration is for rice transplanting in spring and the second one is for the harvest in late summer. It must be noted that the technique with rice cultivation is such that only labor accustomed to it can be used. Both planting and harvesting are entirely manual. Mechanised methods are impracticable in the soft earth of the rice lands.

### GANDIA: A VALENCIA IN MINIATURE

This plain of Gandia which is so small that it can be taken in at one glance from the hills, contains three sorts of country and three distinct ways of living in response to them. The coastal plain of all Valencia is much the same, even tho the scale be greater.

# GEOGRAPHY OF ETHIOPIA AND INTERNATIONAL RELATIONS

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## People

Largest and strongest of the only two independent countries in Africa in 1935, Ethiopia has an area of about 400,000 square miles and a population of approximately 10,000,000 people.

About one-third of the population are true Ethiopians, that is, they belong to the Amhara and Shoa tribes, dwell on the central plateau, and are members of the Coptic Christian church. Hamitic and Semitic in origin, they vary widely among themselves according to the degree of mixture with the surrounding Negroes. They are proud, liberty-loving and war-like,—convinced that they can defend themselves against all attacks. It is significant that, when united, they have never been beaten. On the other hand, they do not desire to expand their territory. The true Ethiopians are essentially highlanders, dislike the tropical lowlands as much as do Europeans, and suffer severely in them. All they ask is to be left alone in their own territory.

The remainder of the population, mostly Mohammedans, belong to many different tribes and are in varying stages of subjection and loyalty. Most of them belong to the Galla race, a Negro race which entered Ethiopia from the south in the sixteenth century and settled over a considerable part of the country. Their subjugation, not any too thoro even today, was completed during the reign of Menelik II, 1889-1913. They are a pastoral people, industrious and war-like.

## Climate

Altho Ethiopia lies so near the equator, Lat. 4°N. to Lat. 15°N., its climate is more dependent upon altitude than upon latitude. Whether the climate of any place is hot or cold, arid or humid, depends upon its altitude. The monotonous rhythm of the slight seasonal changes is dependent upon the annual northward and southward march of the sun.

There are two well-defined seasons, the wet and the dry. The sun, northward bound, crosses the equator on March 22 and the rainy season begins, in March in the south, in May in the north. The

first month, characterized by light, scattered rains, is known as the time of the "Little Rains." The period of the heavy rains, the true rainy reason, begins about June 1 and lasts until September 30. September 22, the sun, southward bound, again crosses the equator. Within a week the rains cease and the dry season, six to eight months long, begins.

The northern part of the plateau receives from 40 to 50 inches annually, the southern part about 70 inches, of which about 70 per cent falls during the rainy reason, May 1 to October 31. The rainfall is more uniformly distributed in the south than in the north. Precipitation decreases northward and eastward from the high plateau because of decreasing altitude, and northward due to increasing distance from the equator also. The rest of the country, except for the Danakil desert and other lowlands along the northern and eastern borders, receives 20 inches or more annually, most of which falls during the rainy season.

All Ethiopia receives less than five inches of rain during the dry season, November 1 to April 30, except for some of the higher areas in the southwest which receive from five to twenty inches.

The rain comes in tropical thunderstorms with torrential downpours of short duration. Except in August when they occur at all hours, the storms come regularly about 2:00 P.M. An interesting native response to these storms is the custom of carrying a closely-woven, circular grass mat which can be quickly twisted into a cone under which the bearer squats until the rain is over.

Due to the dominant influence of altitude it is difficult to give a true picture of temperatures. Two things should be borne in mind in any consideration of Ethiopian temperatures: First, the temperature of any place is determined largely by its altitude. Second, for any altitude, because of the latitude, temperatures are monotonously uniform thruout the year. Seasonal changes are small, 10° to 15°. Diurnal changes are much greater, so much greater that here, as elsewhere in the tropics, "night is winter."

## Climatic Zones

Climatically Ethiopia is divided into four zones dependent upon altitude. The highest, known as the "Dega," includes all land from 9,000 to 15,000 feet above sea level. Its mean annual temperature is between 45° and 50°, while temperatures below freezing are common. It is characterized by a scanty vegetation. In parts, it is dis-

tinctly alpine. Cattle and sheep pasture in it thruout the year.

The second zone, the "Voina Dega" or "Wine Zone," lies between 5,000 and 9,000 feet above sea level. It comprises the greater part of the plateau. The climate is similar to that of southern

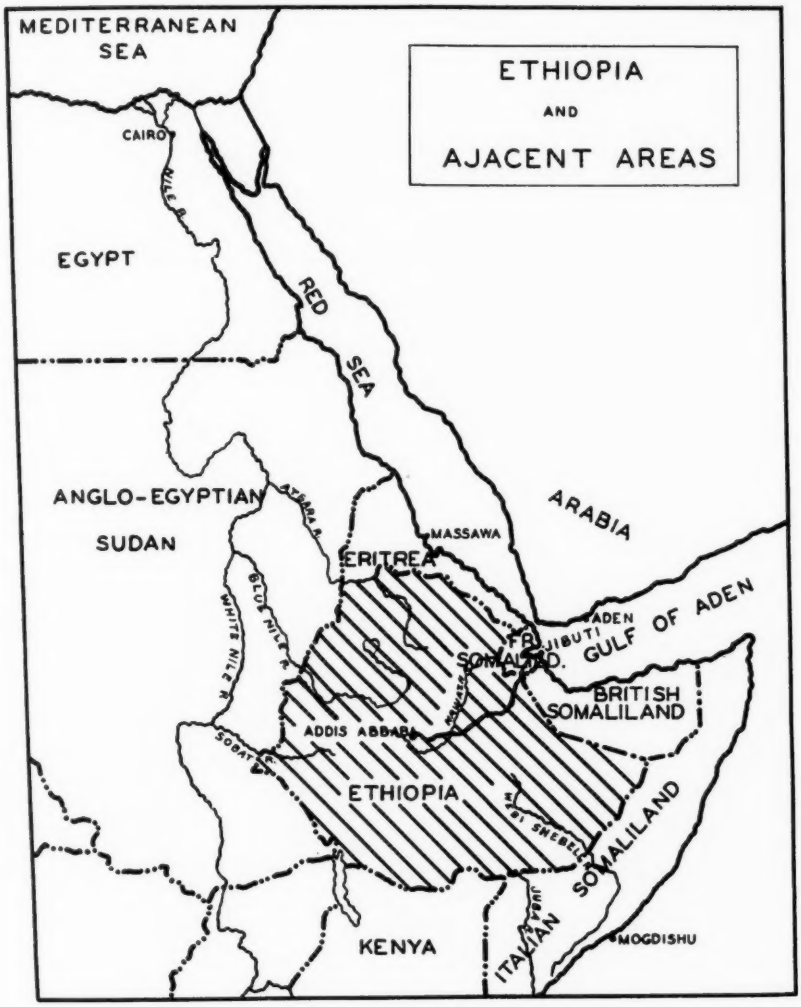


Fig. 1.

Europe, with mean annual temperatures from 60° to 70°. It is the healthful, most habitable zone, and nearly all the chief cities are found in it. All the domestic animals except the pig and all the crops common to the United States and to the Mediterranean countries of Europe thrive in this zone. According to Ethiopians three

crops a year may be raised in it. It is the zone most suitable for European colonization.

The third zone, the "Kollas" or "Hot Lands," range from 2,500 to 5,000 feet in elevation. Mean annual temperatures vary from 70° to 80°, and the rainfall is abundant. Nearly all the typical tropical products can be raised in this zone. While it is less suitable for European colonization than the Voina Dega, it is much more susceptible to exploitation as a source of the raw materials needed by Italy, especially cotton.

Lastly, there are the intensely hot lowlands which lie, for the most part, around the borders of Ethiopia, and are generally less than 2,500 feet in elevation. In these desert areas the rainfall is light, while the mean annual temperature frequently exceeds 86°. They are populated by turbulent nomadic tribes, more or less under Ethiopian control. These lowland deserts offer little of interest to Europeans.

## SOIL

Little can be said about the soil. That there are extensive areas of fertile soil is well known. Highly significant from the standpoint of military operations is the widespread distribution of the red clay soil so common in the tropics. Most of Ethiopia below 6,000 feet is covered by this soil. During the dry season it is hard and friable, but a little rain converts it into a slippery soapy paste, difficult to traverse even on foot. When it is wet vehicles cannot make headway over it, especially on steep grades. Trucks or tanks caught in the red soil areas by sudden rains would be mired down until the ground dried. This explains why the Italian invasion, as all invasions must be, was postponed until the end of the rainy season. Scattered light rains during the dry season were responsible for many of the halts in the invasion after it began.

## AGRICULTURE

Ethiopian agriculture is of the most primitive sort, the kind that barely scratches the surface, not merely of the soil but of the possibilities. It is most advanced in the north where fertilizer is used, crop rotation and fallowing are practiced, and irrigated terrace farming has been developed. Even here the returns, in quantity and quality, are far below the easily secured maximum; while in the south they are barely sufficient to support life at its lowest level.

Due to location near the equator and to the wide range of altitude, almost all types of crops can be produced. At present a variety

of grains are produced, mostly for home consumption. Teff, a variety of millet, is the most important. It is the basis of "injera," a coarse brown bread which is the chief food of the people. Dhurra (another millet), dagassa, barley, flax, and wheat are raised.

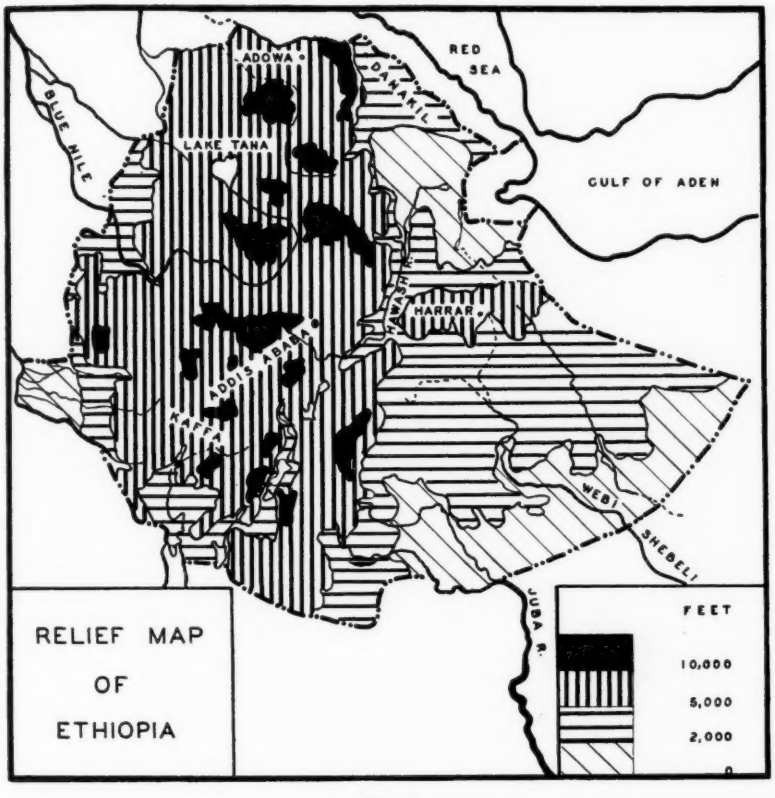


Fig. 2.

Oil seeds, as linseed, castor, and sunflower are produced in small quantities and converted into low-grade oils for use at home.

Nearly all the vegetables and fruits common to the United States and Europe can be raised but, curiously enough very few are produced. Among the fruits should be mentioned the citrus fruits, peaches, apricots, bananas, figs, dates, grapes, and many berries.

Sugar cane, of which very little is produced, grows well at the lower altitudes. Cotton is raised almost everywhere, but conditions in the Hawash valley and around Lake Abaya are especially favorable to it. In quality it is the equal of Egyptian cotton. The entire crop is used within the country.

The most important export crop is coffee. Coffee is believed to

have originated in the province of Kaffa from which it takes its name. Wild coffee is still gathered here and exported to Egypt. Harrar, center of commercial coffee production, raises a berry second only to Mocha in quality. This coffee, known as "Long Berry Mocha," is sold mostly to the discriminating trade in the United States.

Livestock production and products are as capable of increase in both quantity and quality as are the plant products. Great herds of cattle and sheep roam the country. Hides, altho exported, are low-grade due to improper curing. With modern methods Ethiopia could become an important producer of high grade hides. Cheap meat, both beef and mutton, for canning could be produced in large amounts.

There is very little doubt that the agricultural land of Ethiopia, cultivated under modern conditions, would produce a great surplus of grains, fruits, and vegetables, as well as cheap meats, to feed Italy and for sale to other countries. It could produce many raw materials needed by an industrialized Italy, such as wool and cotton for spinning in Italian mills, probably rubber and sisal also, and vegetable oils.

### Mineral Resources

Most of all, however, Italy needs mineral raw materials such as oil, coal, and iron. Oil is reported in the Danakil desert, "the hell hole of creation," and in the desert of northeastern Ethiopia, hot and disease laden. Coal and iron ore, the latter low-grade, are reported in the western mountains, especially around Lake Tana. These deposits are so inaccessible that their development has never been seriously considered. The only minerals of commercial importance are mica, potash, gold, and platinum. Platinum is the most important, Ethiopia supplying three per cent of the world output. Little is known of the gold deposits, and still less of the reported silver and copper deposits.

Little accurate information as to Ethiopian mineral resources is available. Most of the reported deposits are located in the most inaccessible parts of the country. Relief and climate make their exploitation a difficult, expensive task—one that will require a long period of time.

### Significance of Ethiopia's Location

Probably the most important fact in the geography of Ethiopia is its isolation due to location, first with respect to other countries

and to the trade routes of the world; second, in the most rugged, mountainous part of Africa, surrounded on three sides—east, north, and west—by deserts.

Isolation has had a twofold effect, retarding the cultural progress of the people, while materially assisting in the preservation of their independence. Lying far from the centers of civilization and far from the trade routes of the civilized world, Ethiopia gave little and received little. Because of failure to progress, this isolation, once an asset, became a liability and led to the loss of Ethiopian independence. The first step in this direction was taken when Ethiopia lost its coast-line to Great Britain, France, and Italy. Ethiopia's only connections with the rest of the world were thru the territories of these three powers, connections which they could cut at any time. This is a serious weakness in peace and war, especially in modern warfare.

Ethiopia's location with respect to the rest of the world and to world trade routes has changed due to improved means of transportation outside the country and to the development of new trade routes, notably the Suez Canal-Red Sea route. Over this route passes the bulk of the European-Asiatic trade, second in value only to the European-American trade of the North Atlantic route. Several great cables connect Europe and Asia via the Red Sea. Ethiopia lies directly on this route, towering—a huge mountain fortress—above the narrow southern entrance to the Red Sea. Whoever, then, controls Ethiopia controls the Red Sea, in fact, holds all northeastern Africa at his mercy.

Another important outgrowth of its location is that the all-important headwaters of the Nile rise in Ethiopia. These rivers gather the run-off from the heavy monsoon rains in the Ethiopian highlands and pour it—a life-giving flood—into the parched lands of Egypt and the Anglo-Egyptian Sudan. The power that controls the upper courses of these rivers, especially the Blue Nile, so that it can divert the waters at will controls not merely the prosperity, but the very existence, of the millions who live in the fertile Nile valley.

Herein lies the vital interest of Great Britain in the present conflict. The Red Sea route is the life-line of the British Empire. Egypt and Anglo-Egyptian Sudan are vital points in the defense of that life-line. Independent Ethiopia offers no threat to the British Empire at either point. A modern power such as Italy, with growing population, aggressive, ambitious to become a great colonial power and a dominant figure in world politics, once well established in a

country as easily defended as Ethiopia would be a constant menace to the existence of the British Empire.

## INFLUENCE OF TOPOGRAPHY

Its more immediate location in the highest, most mountainous part of Africa is an important aspect of Ethiopian geography. Location in these rugged highlands has played an important part in the isolation of the Ethiopians, in the retardation of their progress, and in the preservation of their independence. It has encouraged the development of a vigorous people, but it has also been favorable to sparsity of population, ignorance, distrust of strangers, and a scarcity of occupations except for a few primitive ones. It has preserved the feudal system of social, political, and military organization. Construction of roads and bridges in such a country is difficult and expensive, hence there are few. Difficulties of transportation have reduced trade to a minimum. Topography has made Ethiopia hard to conquer in war and hard to govern in peace.

Ethiopian topography also favors international complications with the Italians in control of the country. The present line of advance in the north is along the eastern edge of the plateau, the only possible route from Eritrea to Addis Ababa. Before the Italian army could penetrate very far into the interior it had to occupy the highlands around Lake Tana to protect its flank, rear, and line of communication with the Red Sea. To press on, leaving this natural fortress area in control of Ethiopian troops, would be to invite disaster. In these mountains lies the most important source of the Nile—the life of Egypt. Great Britain's historic policy, expressed in many treaties and declarations, is a refusal to acquiesce in any disturbance of the Nile headwaters by any European power. Once established in that area, it would be a tremendous, if not an impossible, task to dislodge a modern army, and Egypt would be at its mercy. Any attempt to penetrate and control that part of Ethiopia, an attempt absolutely essential to the successful subjugation of Ethiopia, is almost certain to lead to serious difficulties with Great Britain.

# A PROFILE IN A DAIRY REGION OF SOUTHEASTERN WISCONSIN

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Every area of the earth's surface, no matter how small, has a landscape of some sort, an arrangement and combination of natural and cultural features. These small local portions of the earth's surface may in turn be grouped into larger units, the whole fitting into varied mosaics of surface that make up the geographic regions of any given section. In turn these regions may be grouped and regrouped into world realms. For example, a square mile of southeastern Wisconsin may have six dairy farms upon it, yet the particular square mile is also part of a larger region, a geographic region such as the Southeastern Dairy Region of Wisconsin, which is in turn part of the larger Hay and Pasture Belt of North America. This larger unit may then be fitted into a major world realm.

Too often the far away and seemingly "romantic" region is studied at the expense of the home area. Both should, of course, be included in any well rounded geography curriculum, but many times the student and teacher completely slight the local area. The statement is made that the home landscapes are obvious, yet any critical questioning immediately brings to light the fact that the majority of students do not know their own states or communities. The following material deals with a local region, and attempts to reduce to quantitative measurements some features of a section of southeastern Wisconsin. It may be taken as a sample of a "home region," and the same kinds of landscape features may be recorded and catalogued for other portions of the earth's surface.

Geographers have written and said that "such and such a landscape is characterized by the presence of red dairy barns," or by "substantial brick houses," or "a high percentage of level land laid out in rectangular corn fields." How characteristic are some of these strikingly visible elements of the landscape? Does it mean that 100 per cent of the barns are red, or 90 per cent, or 60 per cent? Red dairy barns may be, and are, very characteristic of certain sections of southeastern Wisconsin, but the same color in dairy barns is not necessarily characteristic of southeastern Pennsylvania. The local characteristics are often overlooked by the inhabitants. An exercise in which the pupils deal with their own home region will

certainly bring to their minds the outstanding landscape characteristics of their surroundings, and at the same time will help them place their local environs in proper statewide relationship, national setting, and world geographic realm.

## A Profile Along a Highway

During the late winter, spring, and early summer of 1935 the writer made a detailed survey of 45.9 miles of road in southeastern Wisconsin, along a line generally northeastward from Madison. The route lies thru the heart of the Upper Rock River Valley Dairy Region of Wisconsin, a geographic unit already surveyed in considerable areal detail as part of a project in the geography of the state. Five villages and cities in addition to Madison lie along this route, and divide it into convenient segments. This particular survey was confined to the open countryside, to rural portions of the landscape, and did not attempt to classify or catalogue the landscape types in the village and cities of Sun Prairie, Columbus, Beaver Dam, Horicon, and Mayville. Consequently the count was made from the edge of the closely-built-up portion of the "geographic city" to the next "geographic city," without regard to the political borders. The count includes various scattered houses outside of the "geographic city" but does not include farmsteads, if any, within the villages. It gives a "linear answer" to some of the questions previously proposed, for all features catalogued are immediately along the highway or connected directly to it, and are not back on side roads. A linear profile is the result; questions of area cannot be answered, questions of frontage can.

## Buildings in the Landscape

The farmsteads are characteristic frontal features along this, or any other, southeastern Wisconsin highway. One hundred seventy-nine large dairy barns line this section of roadway, 94 on one side of the highway and 85 on the other. A total of 153 of these barns, or 85 per cent of all, are painted red. In addition, several others were obviously the same color at some distant time, but at the time of the count were in such stage of array that they were classified as "unpainted." White, grey, yellow, olive, and unpainted barns account for the other 15 per cent. Truly then it may be said that red barns are characteristic of the landscape of the particular section. Presumably it is safe to carry a generalization of this type over some additional

territory in southeastern Wisconsin, but folly to broadcast widely about 85 per cent of barns being red in color, and folly to use data of this sort to generalize for the Driftless Area, for lakeshore Wisconsin, or for any other region.

The country houses along this same stretch of road, whether farmsteads or merely houses in the country, are characteristically built of wood, 82 per cent of all houses, 162 out of 197, being constructed of this material. Most of the houses not built of wood are made of native stone or of brick, and near the houses of native stone there are small local quarries. The brick houses show dominant concentration near Madison, and also indicate by style of architecture the fact that they were products of successful farming near a city market in the latter part of the past century. Of all houses 81.2 per cent are farmsteads, but in this case the lowest percentage, 69, of farmsteads is in the segment immediately adjacent to Madison. Twenty-one farms along the highway have "split buildings," that is, the house on one side of the concrete highway and the barn on the other. This distinctive landscape feature shows marked concentration, for 13 of the 21 sets of split buildings are along the diagonal highway between Sun Prairie and Columbus, and 6 are between the latter city and Beaver Dam. This site factor is again an inheritance from the past, the houses and barns having been built in pre-main highway days.

The fact that the Upper Rock River Valley region is a dairy region, and also that it lies in the heart of the pea canning area of Wisconsin is reflected by the linear profile along this highway. A total of 149 silos are visible landscape features. In addition, of course, there may be inside silos that cannot be viewed by the passing traveller. Several silos are parts of sets of two, or even of three. Along the roadway are many specialized buildings which reflect the dominant land-use of the area—five cheese factories and five pea viners. All of these particular landscape features, separately or in conjunction with other visible landscape elements, such as the barns, milk-houses, and dairy cattle in the fields, indicate the dominance of the dairy industry, with the raising of canning peas as a cash crop.

Other buildings along the highway serve different functions, but are also characteristic landscape features. Eight country schoolhouses, a town hall, and a church constitute the public buildings of the rural profile. A greenhouse is located near one of the cities, and across the highway from a large cemetery. Three roadhouses complete the total of 400 buildings of the profile.

TABLE I

PERCENTAGES OF FRONTAGE ALONG HIGHWAY

| | | Hay | Corn | Oats | Peas | Woods | Pasture | Farmsteads, etc. | Gravel pit Quarry Dump | Garden | Potatoes | Plowed field | Soybeans | Cemetery | Orchard | Waste | Beets Mangels Winter wheat etc. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Madison–Sun Prairie | N | 34.5 | 13.2 | 20.4 | 10.0 | 1.2 | 6.8 | 13.6 | quarry .4 | — | — | — | — | — | — | — | — |
| | S | 20.9 | 38.4 | 12.0 | 3.7 | — | 11.5 | 13.0 | — | .3 | — | — | — | — | — | — | — |
| | Av. | 27.7 | 25.8 | 16.2 | 6.85 | .6 | 9.15 | 13.3 | .2 | .15 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sun Prairie–County Line | N | 15.0 | 13.2 | 31.4 | 2.3 | 2.1 | 17.4 | 14.8 | — | .5 | 2.9 | .5 | — | — | — | — | — |
| | S | 16.6 | 23.8 | 26.2 | 5.9 | 1.5 | 8.6 | 9.3 | quarry 1.0 | .5 | 1.5 | — | 2.1 | 1.0 | 1.5 | .3 | — |
| | Av. | 15.8 | 18.5 | 28.8 | 4.1 | 1.8 | 13.0 | 12.05 | .5 | .5 | 2.2 | .25 | 1.05 | .5 | .75 | .15 | 0.0 |
| County Line–Columbus | N | 31.9 | 9.0 | 34.0 | 10.1 | 3.8 | 1.1 | 10.1 | — | — | — | — | — | — | — | — | — |
| | S | 12.2 | 20.7 | 24.0 | 22.9 | — | 9.0 | 10.6 | — | — | .5 | — | — | — | — | — | — |
| | Av. | 22.05 | 14.85 | 29.0 | 16.5 | 1.9 | 5.05 | 10.35 | 0.0 | 0.0 | .25 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Columbus–Beaver Dam | N | 16.2 | 16.5 | 26.9 | 5.4 | .9 | 16.5 | 12.0 | — | .9 | 1.4 | — | — | 1.6 | — | 1.4 | — |
| | S | 15.5 | 23.6 | 36.5 | 3.7 | — | 9.9 | 10.1 | — | — | .5 | — | — | — | — | — | — |
| | Av. | 15.85 | 20.05 | 31.7 | 4.55 | .45 | 13.2 | 11.05 | 0.0 | .45 | .95 | 0.0 | 0.0 | .8 | 0.0 | .7 | 0.0 |
| Beaver Dam–Horicon | N | 20.3 | 13.3 | 23.1 | 4.3 | — | 13.7 | 21.4 | — | .3 | — | — | — | 2.2 | — | .5 | .5* |
| | S | 21.2 | 16.6 | 31.5 | 4.1 | — | 10.8 | 11.4 | — | .3 | 1.3 | — | — | 1.3 | .2 | 1.1 | — |
| | Av. | 20.75 | 14.95 | 27.3 | 4.2 | 0.0 | 12.25 | 16.4 | 0.0 | .3 | .65 | 0.0 | 0.0 | 1.75 | .1 | .8 | .25 |
| Horicon–Mayville | N | 12.7 | 12.2 | 19.0 | 5.0 | 7.0 | 32.8 | 7.0 | dump 1.0 | — | 2.0 | — | — | — | — | — | mangels 1.5 |
| | S | 20.1 | 3.0 | 44.1 | 1.0 | — | 15.6 | 10.3 | 2.0† | — | — | — | — | — | — | 3.0 | beets 1.0 |
| | Av. | 16.4 | 7.6 | 31.55 | 3.0 | 3.5 | 24.2 | 8.65 | 1.5 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 | 1.25 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Av. | 16.4 | 7.6 | 31.55 | 3.0 | 3.5 | 24.2 | 8.65 | 1.5 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.5 | 1.25 |

TABLE I (*Continued*)

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Totals (average percentages of the six segments) | 19.76 | 16.96 | 27.44 | 6.53 | 1.38 | 12.81 | 11.97 | .37 | .23 | .84 | .04 | .18 | .51 | .14 | .53 | .25 |
| Total (average of 45.9 miles) | 19.25 | 17.64 | 27.67 | 5.27 | 1.14 | 12.80 | 12.33 | .30 | .30 | .95 | .05 | .21 | .65 | .21 | .51 | .19 |

N = northwest and north side of the highway.
S = southeast and south side of the highway.
* Winter wheat.
† Gravel pit.

TABLE 2

| | | SILO COUNT | | BUILDING COUNT | | | | | | HOUSES | | BARN COUNT | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total silos | Sets of twin silos | Total houses | Farmhouses | % of houses that are farmhouses | Sets of split bldgs.* | Additional buildings | Total all buildings** | House materials | % wooden houses | Barn totals | Colors | % red barns |
| Madison–Sun Prairie | N | 13 | 3 | 21 | 14 | 66.6 | 1 | 1 school | 22 | Wood 15<br>Brick 5<br>Tar paper 1 | 71.4 | 15 | Red 11<br>White 2<br>Grey 1<br>Unp. 1 | 73.3 |
| | S | 14 | 3 | 22 | 16 | 72.7 | 1 same | 1 town hall | 23 | Wood 17<br>Brick 3<br>Stucco 2 | 77.3 | 19 | Red 16<br>White 1<br>Unp. 2 | 84.2 |
| | | 27 | 6 | 43 | 30 | 69.65 | 1 | 2 | 45 | | 74.35 | 34 | | 78.75 |

TABLE 2 (*Continued*)

| | | SILO COUNT | | BUILDING COUNT | | | | | | HOUSES | | | BARN COUNT | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total silos | Sets of twin silos | Total houses | Farmhouses | % of houses that are farmhouses | Sets of split bldgs.* | Additional buildings | Total all buildings** | House materials | % wooden houses | Barn totals | Colors | % red barns |
| Sun Prairie–County Line | N | 10 | 0 | 21 | 16 | 76.2 | 8<br>same | 1 pea viner<br>1 cheese factory<br>2 schools | 25 | Wood 19<br>Brick 2 | 90.5 | 22 | Red. 21<br>Unp. 1 | 95.5 |
| | S | 9 | 0 | 16 | 14 | 87.5 | 8 | 1 pea viner | 17 | Wood 14<br>Native stone 1<br>Stucco 1 | 87.5 | 12 | Red 10<br>Unp. 2 | 83.3 |
| | | 19 | 0 | 37 | 30 | 81.85 | 8 | 5 | 42 | | 89.0 | 34 | | 89.4 |
| County Line–Columbus | N | 3 | 0 | 6 | 6 | 100.0 | 5<br>same | 0 | 6 | Wood 3<br>Brick 3 | 50.0 | 6 | Red 5<br>Grey 1 | 83.3 |
| | S | 7 | 1 | 4 | 3 | 75.0 | 5 | 0 | 4 | Wood 4 | 100.0 | 7 | Red 6<br>Unp. 1 | 85.7 |
| | | 10 | 1 | 10 | 9 | 87.5 | 5 | 0 | 10 | | 75.0 | 13 | | 84.0 |
| Columbus–Beaver Dam | N | 15 | 2<br>1† | 25 | 18 | 72.0 | 6<br>same | 1 school<br>1 church<br>1 pea viner | 28 | Wood 23<br>Brick 2 | 92.0 | 18 | Red 17<br>Olive 1 | 94.4 |
| | S | 20 | 3<br>1† | 16 | 15 | 93.8 | 6 | 1 cheese factory<br>1 school | 18 | Wood 15<br>Shingle comp. 1 | 93.7 | 20 | Red 16<br>Grey 3<br>Unp. 1 | 80.0 |
| | | 35 | | 41 | 33 | 82.9 | 6 | 5 | 46 | | 92.85 | 38 | | 87.2 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 35 | | 41 | 33 | 82.9 | 6 | 5 | 46 | | | 92.85 | 38 | | | 87.2 |

TABLE 2 (*Continued*)

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Beaver Dam–Horicon | N | 32 | 6 | 30 | 27 | 90.0 | 0<br>same | 1 cheese factory<br>2 schools<br>2 roadhouses | 35 | Wood 25<br>Brick 5 | 83.3 | 26 | Red 21<br>White 1<br>Yellow 2<br>Grey 1<br>Stained 1 | 80.8 |
| | S | 15 | 3 | 19 | 16 | 79.0 | 0 | 2 cheese factories<br>1 school<br>1 roadhouse<br>1 pea viner<br>1 greenhouse | 25 | Wood 14<br>Brick 5 | 73.7 | 17 | Red 15<br>Grey 1<br>Lavender 1 | 88.2 |
| | | 47 | 9 | 49 | 43 | 84.5 | 0 | 11 | 60 | | 78.50 | 43 | | 84.5 |
| Horicon–Mayville | N | 5 | 0 | 7 | 7 | 100.0 | 1<br>same | 0 | 7 | Wood 6<br>Gal. iron 1 | 85.7 | 7 | Red 7 | 100.0 |
| | S | 6 | 0 | 10 | 8 | 80.0 | 1 | 1 pea viner | 11 | Wood 7<br>Brick 2<br>½ br. ½ wo. 1 | 70.0 | 10 | Red 8<br>Grey 2 | 80.0 |
| | | 11 | 0 | 17 | 15 | 90.0 | 1 | 1 | 18 | | 77.85 | 17 | | 90.0 |
| Totals (either totals of the six segments or average percentages of the six segments.) | | 149 | | 197 | 160 | 82.73 | | 24 | 221‡ | 197 | 81.26 | 179 | 179 | 85.64 |
| Total (average of 45.9 miles) | | | | | | 81.22 | | | | | 82.23 | | | 85.47 |

* House on one side of the road and barn on the opposite side.
** Split buildings tabulated on the farmhouse side of the road.
† Triple silos.
‡ Total includes all houses, pea viners, cheese factories, etc. Excludes barns.

### USE FRONTAGES ALONG THE HIGHWAY

The crops that occupy frontage along the highway are representative of the geographic region. A crop-frontage count for the 45.9 miles showed 27.6 per cent of the frontage on the two sides of the road to be in a small grain crop, almost entirely oats or barley, 19.2 per cent in hay, 17.6 in corn, 12.8 per cent in pasture, 12.3 per cent farmsteads, pea viners, cheese factories (including in the farmstead the yard, garden, farm orchard, exercise yards and other frontal features), 5.2 per cent in peas, 1.1 per cent in woodland, and the remaining small percentage of frontage in a wide variety of crops and land use, such as potatoes, soybeans, orchard, waste land, beets, quarry and gravel pits, and cemeteries.

The comparison of frontage figures and areal figures indicates that the highway frontage has a somewhat higher percentage of crop land than the region as a whole, slightly lower percentages of pasture and woodland because of the tendency of these landscape units to be upon the back portions of the farms, and lastly, of course, a much higher percentage of farmsteads and associated land.

The frontage figures as given are averages for the 45.9 miles. Actually the segments show interesting trends and comparisons, and indicate how profiles may be used across transitional areas. For example, corn decreases in percentage of frontage along each of the segments but one northeastward from Madison, 25.8 per cent between Madison and Sun Prairie, 16.8 per cent Sun Prairie to Columbus, 20 per cent Columbus to Beaver Dam, 14.9 per cent Beaver Dam to Horicon, and 7.6 per cent Horicon to Mayville. Peas, averaging 5.2 per cent for the entire profile, occupy 16.5 per cent of the frontage from the Dane-Columbia county line to the city of Columbus.

### PLACE IN THE ENTIRE LANDSCAPE

An exercise of the kind described provides a wealth of material for the local geography of any given area. It raises all sorts of whys and wherefores that lead to awakened geographic interest in the description and interpretation of area. The counts and results may be carried to a surprising detail or may be adjusted to any grade level desired by the selection of material. When taken in conjunction with the village or city the complete description of the area is consummated. For example, the condenseries and other milk manufacturing plants and the pea canneries of the cities of the

Upper Rock River Valley Region are as characteristic of the urban landscapes as are the cheese factories, dairy cattle, barns, silos, pastures, pea fields, and pea viners of the rural landscapes. The two are intertwined in the larger region, which in turn fits into a larger piece of the southeastern portion of Wisconsin, that into a main agricultural belt of the United States and Canada, and so on into the world geographic realm. The student can place his home region in the world landscape pattern by starting his observations in his immediate environs.

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## MODERN GEOGRAPHY AND CURRENT EVENTS

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Modern geography admittedly is concerned with the study of ephemeral relationships existing between human activities and the natural environment. These geographic relationships are transitory because they represent an amalgamation of two variable factors—man and nature. The evolution and the inconstancy of man are too well known to require illustration, but sometimes even geographers are prone to ascribe an unwarranted degree of stability to the major elements of man's natural environment. From the point of view of the physical sciences individual earthquakes, volcanic eruptions, forest fires, or wind storms have only microscopic significance; from the geographical point of view, however, these and other small changes in the fundament assume major importance because of their profound effects on human life. Clearly, then, the progressive geographer must make careful and discriminating use of current events.

### Appropriate Current Events

Current events vary from the Dionne quintuplets to the Einstein Theory, both of which are equally unintelligible to the average reader. As geographers we fortunately are able to restrict ourselves to those comparatively few current events having a high degree of that priceless ingredient, geographic quality. To have well-marked geographic quality a news item must show a close and fairly direct relationship between human activity and the natural environment. With an adequate amount of supposing, twisting, and warping most

current events can be shown to have some geographical basis, but teachers of geography usually should be concerned only with good clear-cut examples.

Geographers have but little use for many current events which to the uninitiated might appear valuable. The much publicized Byrd Expeditions seem to be of considerable interest altho their contributions to geography are small indeed. One is reminded of a story about the Expedition's need for four ships—the huge factory whaler *C. A. Larson* to move the vast quantities of equipment and "advertized brand" supplies, the *City of New York* to carry the extensive personnel, the *Eleanor Bolling* to transport the reams of press releases, and lastly a canoe to bring back the scientific findings. Stratosphere flights to a point more than thirteen and a half miles above the surface of the earth probably are useful, but of course many sounding balloons have ascended to far greater heights. According to a recent newspaper story some pictures taken on the recent Army-National Geographic balloon flight indicate that the earth is round; this fact, altho of undoubted interest to geographers, hardly can be classed as a current event. It also is likely that Mr. William Beebe's daring descents in his bathysphere to previously unseen depths of the sea are of less geographic value than are his masterful descriptions in "Jungle Peace."

Two groups can be recognized among the many current events especially appropriate for use by geographers. These are technical current events, and general current events. Technical current events are those articles written by geographers about geographical problems which appear in our professional journals such as the *Journal of Geography,* the *Annals of The Association of American Geographers, Economic Geography,* the *Bulletin of the Geographical Society of Philadelphia,* the *Geographical Review, University of California Publications in Geography,* and certain foreign geographical magazines. The value of these publications to geographers is self evident. One pertinent conclusion also admits no dispute. Professional geographers either must be research workers helping push back the borders of geographical knowledge or drones thriving on the industry of their productive colleagues. General current events include the broad range of subjects found in such sources as *Time,* the *Literary Digest, Science,* the Sunday *New York Times,* and local newspapers. Because general current events have less obvious geographical significance than do technical current events,

the following paragraphs are concerned with methods of adapting general current events for use by teachers of geography.

## Illustrations of Basic Principles

Current events are useful as up-to-date examples of those elementary geographical principles stressed in introductory courses. A few unit examples taken from recent world happenings will demonstrate this technique.

The causes of day and night as well as the effects of these phenomena on human activity always have a place in elementary geography. We point out the diurnal rhythm of man's activities, the variations in length of day depending on latitude and upon season, and the typical fluctuation of a family electric bill. How much more life can be injected into this subject if the teacher refers to that bit of Ethiopian strategy in which the dusky warriors removed their flowing white robes to make a successful midnight attack on an Italian outpost.

Students often are reluctant to thoroly understand the mysteries of standard time belts and the International Date Line. Experience shows that a problem or two based on the magnificent flight of the China Clipper is of more practical value to the class than is an hour of lecture on meridians and chronometers.

The destructive power and unpredictable routes of tropical hurricanes have a natural student appeal. All teachers refer to the disaster at Haiphong, Indo-China, in 1881 when some 300,000 people were killed by an East Indian typhoon. We also call attention to the devastation at Galveston when in 1900 a hurricane swept in from the Gulf of Mexico with sufficient force to kill 6,000 people and destroy property valued at $30,000,000. Last fall, however, students were particularly interested in the much discussed hurricane predicted for Nassau, Bahama Islands, but which by some freak of nature blasted Miami instead. The plight of the steamship *Dixie* forced on the Florida Keys by a hurricane also leads to a consideration of the recently announced trans-Florida ship canal.

Important in all beginning geography courses is an appreciation of the intensity of the sun's vertical rays. Teachers usually suggest that the generous use of air conditioning equipment might make the tropical lands more suitable for white occupance. We also should be aware of experiments just completed by Dr. Crowden of the London School of Hygiene and Tropical Medicine who announces

that a piece of aluminum foil used as a hat lining will reduce the temperature felt by the wearer as much as twenty degrees, and that corresponding reductions in temperature can be achieved by lining tent or house roofs with aluminum foil.

Most geographers are concerned with examples of relationships between weather conditions and human behavior. A classic example is the increase in murders reported in Italy during periods when the hot, dry sirocco wind blows desert air across the Mediterranean. It is said that crimes committed when the sirocco prevails commonly are punished less severely because judges recognize the nervous tension caused by this hot wind. As a current example of this relationship we can refer to the recent statement by America's number one "G" man, J. Edgar Hoover, that his reports show a distinct increase in crimes of violence during hot weather.

Difficulty of mountain transportation is one of the most emphasized features of human activities as related to landform. Frequently instructors discuss the fact that in parts of Bolivia the llamas still are able to compete with railroads in transporting ore from mines to mills. Interestingly enough the commercial use of pack animals is not confined to distant lands in far away continents. This winter in Los Angeles County, just outside the city limits of Pasadena, mules are being used to carry poles for a new telephone line being built to Mount Lowe, a resort in the San Gabriel Mountains.

Without question current events can be considered one of the geography teacher's valuable instructional aids. We should, nevertheless, resist the temptation to use news items unless sober reflection shows them to be especially appropriate. Overemphasis of interesting current events may cause the students' attention to shift from the basic principle to the illustrations of that principle. Here as elsewhere a sane and well balanced moderation is essential for success.

### Contributions to General Education

At all times we should remember that we are educators as well as geographers. Geography is taught as one element in preparing students for more interesting, useful, and profitable lives. From this point of view it appears that some consideration of the geographical factors in major world events constitutes a contribution toward general education. In our work at Los Angeles Junior College, for example, we have from time to time given attention to developments in the Italo-Ethiopian situation. Such discussions, in addition to

adding zest to the course, broaden the students' present point of view and show by example how geography can be of value in later life. Our experience suggests that general treatment of this or some similar large, complex problem of world affairs is especially useful late in introductory courses as a vehicle for reviewing a variety of those principles already developed. In all analysis of this type the instructor of course must confine himself chiefly to the geographical factors and avoid floundering in a maze of purely economic or political detail.

### Opportunities in Advanced Courses

Advanced courses in geography offer special opportunities for the use of current events. There are two major reasons for this situation—advanced work is much more intensive, and the students already have much necessary background.

All the wide variety of upper division courses given by four-year institutions afford particular opportunities to make current events function as a valuable geographical teaching aid. Comparatively detailed items about the accomplishments and problems of specific countries have a definite place in our regional courses. Reports about the drainage of the Pontine Marshes, the expansion of the Japanese textile industry, the growing citrus exports of Palestine, and Brazil's new attention to cotton growing probably would not be useful in introductory classes, but they all are suitable topics for appropriate upper division courses.

Not a few of our larger colleges and universities have one or more courses in political geography. Current events, especially those concerned with territorial and boundary disputes, here form the major basis for a semester's work. Specific study can be made of the geographical factors entering into the Gran Chaco dispute, the question of Philippine independence, Cuban and Mexican revolutions, Sino-Japanese relations, and the Italian-Ethiopian war. Students in these political geography classes commonly are mature enough to appreciate that, while geography is only one of the elements contributing to an understanding of these problems, the geographical factor is fundamental and worthy of careful study.

### Geography as a Dynamic Force

It is a source of much gratification to all geographers to realize that recently geography has begun to emerge from its passive role as an interpreter of current events and to wield influence as an

active force in their formulation. Economists, engineers, political scientists, and others of our colleagues long have had a voice in high governmental and business councils. The emergence of geography from the ivory towers of our colleges and universities dates only from the World War. During that period many geographers made valuable technical contributions toward national safety while in government service. At the close of the War Dr. Isaiah Bowman and his colleagues of the American Geographical Society contributed a body of material for use by President Wilson at the peace conference. It is probable that some of Europe's sore spots would not now exist had the recommendations of these able geographers been more heeded.

Between the War and the advent of the New Deal geography made but slow progress outside the classroom, altho the general position of our science was vastly strengthened by the introduction and the expansion of geography departments in all parts of the nation. Regardless of its faults of omission or commission the Roosevelt administration has given geography its greatest opportunity for public service and recognition. Enough trained geographers to staff three or four large departments recently have been appointed to positions with the National Resources Committee, the Tennessee Valley Authority, the Soil Conservation Service, the Bureau of the Census, and various State Planning Boards. Perhaps all of these appointments do not represent permanent net gains, but at any rate geography is being given an opportunity to demonstrate itself as a peer of older and better established disciplines.

## ANNUAL MEETING OF NATIONAL COUNCIL GEOGRAPHY TEACHERS

As announced in the May Number of the JOURNAL the next meeting of the National Council of Geography Teachers will be held in Syracuse, New York, on Tuesday, December 29 and Wednesday, December 30. Headquarters and meetings will be in the Hotel Syracuse. Single rooms with bath run from $2.50 up; double, $4.50 up. Since the New York State Teachers Association meets in Syracuse on the same dates it would be well to reserve rooms early.

Meetings will be on Tuesday morning, afternoon and evening, and on Wednesday forenoon and afternoon. On Wednesday evening will occur the annual dinner.

A wide variety of papers will appear in the program, each one dealing with some very specific phase of geography teaching at grade or college level. A complete detailed program will appear in the November issue of the JOURNAL.

The National Council of Geography Teachers is the largest society of geography teachers in the United States. Many states have State Councils which are affiliated with the National Council and have as their aims the improvement of geography instruction in their respective states. State Councils are urged to have representatives at the national meeting so that they may keep informed as to policy and compare notes on the work being done in the different states.

The National Council invites all geography teachers, whether members or no, within reasonable distance of Syracuse to come to its annual meeting, to gain from the program help in subject matter and method, to share the inspiration which comes from a large group of men and women working together for a common cause, to contribute to the discussions and the plans for future work. Especially are those urged to come to the meeting who work alone or in very small groups where the stimulus of discussion and disagreement is lacking.

The Council is a strong organization but it could become more effective if all geography teachers who are convinced that their subject has something distinctive and worth while to contribute to the curriculum would affiliate themselves with it.

ALISON E. AITCHISON,
*President*

# EDITORIAL NOTES AND NEWS

A cooperative soybean research laboratory has been opened at the University of Illinois, Urbana, Ill., thru the cooperation of the United States Department of Agriculture and twelve north central states. The principal immediate objectives are to improve the soybean's present industrial use and develop new ones; get facts on the effects of different processes on the quality and quantity of soybean products; and facilitate the testing of different varieties as to their suitability for industrial use. Soybean acreage has more than doubled in the last few years. In 1934 the crop was a little more than 20 million bushels. The reasons for this increase, in addition to the demand of beans for food and industrial uses are their immunity to chinch bugs and other pests, their resistance to drought, high seed yield, and good prices compared with other grain crops.

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Miss MARGARET MEANS, instructor in geography in the Bloomington, Illinois, High School, has accepted an exchange teaching position for this school year at the Badminton School, Westbury-on-Trym, Bristol, England. Miss Jane E. Peterson of Badminton will take Miss Means' classes at Bloomington. Miss Means will also supervise a Regional Survey Club engaged in the type of mapping described by Dr. Stamp at the National Council meeting in Evanston two years ago.

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A map projectoscope, designed to demonstrate how the network of meridians and parallels on a hemisphere are projected onto a plane surface, has been perfected by Dr. Earl E. Lackey, Department of Geography, University of Nebraska, Lincoln.

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DR. WALLACE W. ATWOOD, president of Clark University, will address the Geography Club of Western Pennsylvania, at the Frick Training School Auditorium, Pittsburgh, Oct. 17, on The New Meaning of Geography in American Education. Other educators will participate in a symposium on Geography in the Secondary Schools. Dr. Atwood will also be the luncheon guest speaker.

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Professors C. G. ROSSBY and H. C. WILLET of Massachusetts Institute of Technology were last year given the Sylvanus Albert Reed Award of the Institute of Aeronautical Sciences for their research in air-mass analysis, especially in applying the principles thereof to the analysis of the weather map preliminary to making forecasts.

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DR. ROBERT M. GLENDINNING, formerly instructor in the University of Michigan, has been appointed an assistant professor of geography in the University of California at Los Angeles. Dr. Glendinning served during the past two years as associate geographer in the Land Classification section of the division of Land Planning and Housing, Tennessee Valley Authority.

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DR. CLIFFORD M. ZIERER Associate Professor of Geography in the University of California at Los Angeles, is spending a semester's sabbatical leave in travel and research in Australia.

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DR. LEONARD WILSON, from the University of Michigan, has accepted an instructorship in geography at Carleton College, Northfield, Minnesota.

# GEOGRAPHICAL PUBLICATIONS

Walter Fitzgerald. **Africa: A Social, Economic and Political Geography of Its Major Regions.** 462 pp. 90 maps. E. P. Dutton and Co., New York. $5.00

Stanley H. Beaver and L. Dudley Stamp. **Regional Geography, Part II. Africa.** 271 pp. 117 maps and diagrams. Longmans, Green and Co. New York. $2.60

H. W. **Something New Out of Africa.** 208 pp. 4 maps. 108 illustrations. Pitman Publishing Corporation, New York. $5.00

These three 1934 books fill a great need in the studies of regional geography of the continents. Walter Fitzgerald was formerly Lecturer in Geography at the University of South Africa. At present he is Senior Lecturer in Geography in Victoria University, Manchester. His Africa is a comprehensive study of the whole continent. Part I, "The Physical Environment" deals with the geologic structure as a background for the study of topography, soils and drainage; with climate and with the relation of all of these to the distribution of vegetation.

In Part II, "The People—Immigrant and Native," the author traces the discovery and partitioning of Africa from the earliest Phoenician and Greek penetration to the present. He points out the entrance of each European nation and summarizes the geographic and economic significance of the part played by each. Under the caption "Societies of Africa," the author devotes his attention almost exclusively to the native peoples and explains that his purpose is "to provide a general survey of the principal communities of Africa, to place them in their geographical setting, and to note the extent to which geographical conditions have shaped the ways of life of the different societies." He points out that in European penetration little or no attention was paid to ethnic units, hence little relation exists between ethnic and political boundaries.

Part III, "Regional Studies." In this part the author divides the continent into seven regions namely, South Africa, East Africa, Madagascar, Central Africa, West Africa, Barbary States, and the Nile Valley. Each region is discussed in relation to the following seven topics: Limits of the region and reasons for making it a region; Political units or parts of units included; Physical geography and its geologic background; Climate and vegetation in reference to the physical background; Mineral products, if any; Agricultural pursuits and activities; Historical development.

Thruout the discussions the author emphasizes the relation of geology, topography, soil, and climate to vegetation and all of these to the activities of the people inhabiting the area. Numerous small maps of each region are a great aid to the reader. For example, in the discussion of South Africa sixteen different maps are given. These show for South Africa the geology, natural regions, rainfall, the frostless season, distribution of agricultural crops and domestic animals, and the number and distribution of the different races of people. The author is to be highly commended for this splendid aid to the study of Africa.

Regional Geography Part II, Africa, is an outgrowth of the regional studies by Dr. Stamp and Mr. Beaver. The authors lay no claim to extensive first hand information of the continent. The material of the text has been gathered from various British and French sources, especially from numerous government documents. A general discussion of the continent occupies the first thirty-nine pages, and lays the foundation for the more detailed regional studies which follow.

The continent is divided into ten chief regions, and these into subdivisions. Each division and subdivision is discussed under the following order of topics: area and ex-

tent; physical features; minerals; climate; natural vegetation and agriculture; population and historical development; communication and trade. Some variation from this routine would lend more interest to the reader. For most of the divisions and subdivisions small maps and bar grafs show physical features, agricultural production, transportation lines (by land, water and air), climatic data, and population distribution. These data in practically all cases are for very recent years. The writers point out the modern trends in each region. It is a book to be desired by every teacher of geography and should be in all libraries.

Something New Out of Africa is just what the title suggests—something different. The author signs himself only H. W. He was the commander of the Royal Air Force in the Sudan, and as such had an opportunity to see much in northern Africa that few white men have seen. He gives to the reader, thru numerous photographs from the air and close-ups on the ground, an excellent concept of land surface, natural vegetation, wild animal life in its native haunts, and native habitations of the Sudan and northern Africa. Nevertheless, the book is not primarily one of illustrations. These only supplement the text in which the writer, in excellent English, shows a rather intimate knowledge of the native life and customs and brings these vividly to the reader. It is composed largely of accounts of and experiences in his many flights across northern Africa. In these, much good description is given of climatic conditions, experiences in tropical storms, and life responses to climate, soil, and topography. There is much in this book that will clarify and enrich the concepts of the geographer in regard to the people and their environment in this little known continent.

J. E. SWITZER

*Indiana University*

George McCutchen McBride. **Chile: Land and Society.** 408 pp. 58 illustrations. American Geographical Society, N.Y. 1936.

Dr. McBride has long been interested in the problems of Latin American peoples, particularly those pertaining to land ownership and land utilization. His years of residence in countries to the south of us and his detailed research have well fitted him for the high quality of work represented in this book. Of his many excellent studies, "Chile: Land and Society" is probably the best.

The book is divided into three parts: "Central Chile: The Land of the Hacienda"; "Southern Chile: A Frontier Region"; and "Northern Chile: An Arid Region with Scattered Settlements." Part I is divided into nine chapters and is the central and main part of the book. It is here that the author develops so strikingly the relationship of "Master and Man" in Chile. He describes the types and development of the haciendas so characteristic in the monopoly of the land. It is here that he shows the influence of the haciendas (thru their owners and laborers) on the economic, social and political life of the country.

Altho the major portion of the book is taken up with the study of central Chile, the other parts are also amply and skillfully treated. Part II has five chapters devoted to the forest lands of the south and land utilization of the area. Part III has one chapter on "Desert Farms." In his concluding chapter the author discusses the recent rise of agrarian unrest and the outlook for reform in land ownership.

The book is enriched by a bibliography of twelve pages and many illuminating footnotes. In this work Dr. McBride has added one of the most valuable contributions to material on Latin American problems. Students of Chilean affairs, whether they be geographers, historians, economists, political scientists or sociologists will find in this book a rich mine of information well organized and clearly presented.

FRANK E. WILLIAMS

University of Pennsylvania

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Dr. Van Cleef is a professor of geography in Ohio State University, and a frequent contributor to scientific journals. A few years ago he was invited to Finland as a geographical adviser and writes from the viewpoint of one who has enjoyed the opportunity for intimate study of the country. Among the books of which he is author are, "Finland, the Republic Farthest North," and "The Story of the Weather."

**The Influence of Specific Instruction on Map Interpretation. By Frank E. Sorenson** ..... 300

Mr. Sorenson is a graduate of the University of Nebraska, former superintendent of schools, Syracuse, Nebraska, and joint author of "Equipment for Teaching Geography," which appeared in the May issue of *The School Executive*. At present he is an assistant in the department of geography, Ohio State University and pursuing his doctorate studies.

**The Sponge Industry at Tarpon Springs, Florida. By George S. Corfield** ..... 308

Mr. Corfield, a member of the geography staff, State Teachers College, Duluth, Minnesota, formerly taught in the State Teachers College, Montclair, New Jersey and Salem, Massachusetts, and in summer sessions at Clark University.

**Some Exercises in Geography Study Techniques for College Freshmen. By Henry F. Becker and Gladys Fawley** ..... 317

Mr. Becker is an assistant professor of geography, Florida State College for Women, and formerly taught in the University of Chicago High School, and Marshall College. He contributed, "Some Significant Contributions of Geography to Intelligent Citizenship," to the *High School Quarterly*, July, 1935. Miss Fawley is an instructor in geography Florida State College for Women and joint author, with Mr. Becker, of "Laboratory Manual and Study Guide."

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